UNITED STATES PATENT AND TRADEMARK OFFICE

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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

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Ex parte GEOFFREY A. STRONGIN and DALE E. GULICK

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Appeal 2008-0595
Application 09/853,225
Technology Center 2100

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Decided: June 26, 2008

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Before ALLEN R. MACDONALD, JAY P. LUCAS, and STEPHEN C.
SIU, *Administrative Patent Judges*.

SIU, *Administrative Patent Judge*.

DECISION ON APPEAL

I. STATEMENT OF THE CASE

Appellants appeal under 35 U.S.C. § 134(a) from the Examiner's

Final Rejection of claims 1-3, 5-14, and 16-33. We have jurisdiction under

35 U.S.C. § 6(b). We affirm.

A. Invention

The invention at issue involves managing the length of time a computer system is in a secure system mode (Spec. 2). In particular, a timer indicates the duration in which a computer system is operating in a first operating mode. When the duration reaches a predetermined value, a control signal is provided (*id*. 5).

B. Illustrative Claim

Claim 1, which further illustrates the invention, follows:

1.   A device configured for use in a computer system, comprising:

an indicator configured to indicate when the computer system is in a secure operating mode;

a first time configured to indicate a duration in which the indicator is active; and

control logic coupled to receive the duration from the first timer, wherein the control logic is configured to provide a control signal upon the duration reaching a predetermined value.

C. Rejection

Claims 1, 2, 5-13, and 16-33 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,771,390 ("Walker") and U.S. Patent No. 6,581,162 ("Angelo"). Claims 4 and 15 have been cancelled.

II. CLAIM GROUPING

When multiple claims subject to the same ground of rejection are
argued as a group by appellant, the Board may select a single claim
from the group of claims that are argued together to decide the appeal
with respect to the group of claims as to the ground of rejection on the
basis of the selected claim alone. Notwithstanding any other
provision of this paragraph, the failure of appellant to separately argue
claims which appellant has grouped together shall constitute a waiver
of any argument that the Board must consider the patentability of any
grouped claim separately.

37 C.F.R. § 41.37(c)(1)(vii) (2006).[1]

Appellants argue claims 1, 2, 5-13, and 16-33 as a first group (App.

Br. 5-7) and claims 3 and 14 as a second group (App. Br. 7-8). We select

claim 1 as the sole claim on which to decide the appeal of the first group and

claim 3 as the sole claim on which to decide the appeal of the second group.

III. CLAIMS 1, 2, 5-13, AND 16-33

Walker discloses a "real time clock (RTC) 164 as the timer for

calculating the period of inactivity which directs the computer system to

cascade from the suspend state to the suspend-to-disk state" (col. 5, ll. 10-

13). A user inputs "desired periods of inactivity which indicate when the

computer system should cascade from the full-on state to the standby state,

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[1] We cite to the version of the Code of Federal Regulations in effect at the
time of the Appeal Brief. The current version includes the same rules.

and from the standby state to the suspend state, and finally from the suspend state to the suspend-to-disk state" (col. 5, ll. 21-25). "[I]f the computer system has been inactive for a period of time . . . then an SMI interrupt (System Management Interrupt) for standby mode is asserted" (col. 5, ll. 39-42). (Emphasis added). Thus, Walker discloses changing power states in a computer system based on periods of time using an SMI interrupt.

Angelo discloses a "System Management Mode (SMM)" of a computer system (col. 6, ll. 20-21) in which "SMIs are asserted by . . . an SMI timer" (col. 7, l. 56). "When an SMI is asserted, a microprocessor maps a portion of memory referred to as the system management mode memory ("SMM memory") into the main memory space" (col. 7, ll. 61-64), after which time, the system "begins executing an SMI handler routine 210, which is an interrupt service routine to perform specific system management tasks such as reducing power to specific devices or . . . providing security services" (col. 7, l. 67 – col. 8, l. 4). The SMI hander utilizes "machine identification information 212, encryption keys 214, and an encryption algorithm 216 to securely perform encryption operations" (col. 8, ll. 42-44). Hence, Angelo discloses that SMIs are used in system management mode (SMM) both in reducing power in computer systems and also for "providing security services" (col. 8, l. 4) such as by utilizing "encryption keys 214, and an encryption algorithm 216 to securely perform encryption operations" (col. 8, ll. 43-44).

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As Appellants indicate in the Specification, System Management Mode ("SMM") is "a secure system mode" (Spec. 1).

Appellants argue "Walker does not teach or suggest using the real-time clock alarm to determine a duration of a <u>secure operating mode</u>" (App. Br. 6), "Angelo does not (explicitly or inherently) describe or suggest a timer <u>configured to indicate a duration of a secure operating mode</u>" (*id*.), and that "neither Walker nor Angelo provide any suggestion or motivation to modify the prior art of record to arrive at the claimed invention" (*id*.).

We disagree with Appellants' contention that Angelo fails to disclose a timer to indicate a duration of a secure operating mode in view of Angelo's explicit disclosure of "an SMI timer" (col. 7, l. 56) that, when asserted, causes a process to execute "an SMI handler routine **210**, which is an interrupt service routine to perform . . . tasks such as reducing power to specific devices or . . . providing security services" (col. 8, ll. 1-4).

In addition,

> [s]ection 103 forbids issuance of a patent when 'the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.'

KSR Int'l Co. v. Teleflex Inc., 127 S. Ct. 1727, 1734 (2007).

In *KSR*, the Supreme Court emphasized "the need for caution in granting a patent based on the combination of elements found in the prior art" *id.* at 1739, and discussed circumstances in which a patent might be

determined to be obvious. *KSR,* 127 S. Ct. at 1739 (citing *Graham v. John Deere Co.*, 383 U.S. 1, 12 (1966)). The Court reaffirmed principles based on its precedent that "[t]he combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results." *Id.* The operative question in this "functional approach" is thus "whether the improvement is more than the predictable use of prior art elements according to their established functions." *Id.* at 1740.

The Federal Circuit recently recognized that "[a]n obviousness determination is not the result of a rigid formula disassociated from the consideration of the facts of a case. Indeed, the common sense of those skilled in the art demonstrates why some combinations would have been obvious where others would not." *Leapfrog Enters., Inc. v. Fisher-Price, Inc.*, 485 F.3d 1157, 1161 (Fed. Cir. 2007) (citing *KSR*, 127 S. Ct. 1727, 1739 (2007)). The Federal Circuit relied in part on the fact that Leapfrog had presented no evidence that the inclusion of a reader in the combined device was "uniquely challenging or difficult for one of ordinary skill in the art" or "represented an unobvious step over the prior art." *Id.* (citing *KSR*, 127 S. Ct. at 1740-41).

As set forth above, Walker discloses "calculating the period of inactivity" of a computer system and cascading from one state to another after "desired periods of inactivity" using "an SMI interrupt." Angelo discloses a known function of the SMI as asserted by "an SMI timer" (col. 7, l. 56) to not only reduce power "to specific devices" but also for "providing

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security services" (col. 8, ll. 1-4) during operation in a secure operating mode (i.e., SMM – col. 8, ll. 10-11). Thus, Walker demonstrates that it was known in the art to use a timer to indicate a duration of time a computer system is operating in a mode by using an SMI interrupt and performing an action when a predetermined time has elapsed while Angelo demonstrates that it was known in the art to operate a computer system in a secure operating mode (i.e., "SMM") using an SMI timer and that an SMI is used for either reducing power to specific devices or for providing security services.

Because each of the elements recited in claim 1 are elements that are known in the art with known functions that yield predictable and expected results when used in combination (i.e., timing the duration while in a secure mode of operation), as demonstrated by Walker and Angelo, we agree with the Examiner that the combination of Walker and Angelo would have been obvious. We note that in *KSR*, the Supreme Court reaffirmed that "when a patent 'simply arranges old elements with each performing the same function it had been known to perform' and yields no more than one would expect from such an arrangement, the combination is obvious." *KSR*, 127 S. Ct. at 1740 (quoting *Sakraida v. Ag Pro, Inc.*, 425 U.S. 273, 282 (1976)).

It follows that Appellants have failed to demonstrate that the Examiner erred in rejecting claim 1. Therefore, we affirm the rejection of claim 1 and of claims 2, 5-13, and 16-33, which fall therewith.

IV. CLAIMS 3 AND 14

Appellants argue that "the admitted prior art fails to remedy the aforementioned fundamental deficiencies of Walker and Angelo" (App. Br. 8) with regard to claims 1, 12, and 13, from which claims 3 and 14 depend. As set forth above, Appellants have not shown "fundamental deficiencies of Walker and Angelo."

Therefore, we affirm the rejection of claim 3 and of claim 14, which falls therewith.

V. ORDER

In summary, the rejections of claims 1-3, 5-14, and 16-33 under § 103(a) are affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a).

<u>AFFIRMED</u>

rwk

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